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FIELD MAINTENANCE PRINT SET

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CABLE, BCØ5L	D-UA-BCØ5L-Ø-Ø
SHIPPING LIST	A-PL-DR11-W

DRII-W

Field Maintenance Print Set

Digital Equipment Corporation

PRINT SET ORDER
NUMBER MPØØ693

MR	REV			USED ON OPTION/MODEL	DRN.	DATE	digital			
REVISIONS	CHG. NO.			DR11-W	<i>Kingston</i>	8-13-76	TITLE: GENERAL PURPOSE DMA INTERFACE			
N/R	DATE				CHK'D	DATE				
					<i>7/16/79</i>	300779				
					PROJ. ENG.	DATE				
					<i>M. T. C.</i>	10-10-76				SIZE B
					FIELD SERV.	DATE				
					<i>10-15-76</i>	10-15-76	DIST.			
SHEET 1 OF 1										
DOD 1004										

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DRAWING DIRECTORY

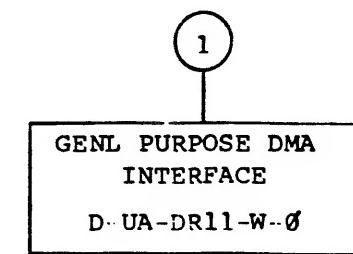
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FOR FIELD MAINTENANCE PRINT SET
REFER TO B-TC-DR11-W-1

REVISIONS	CHANGE NO.	REV.		USED ON OPTION/MODEL	DRN.	DATE	TITLE
					<i>A. M. G. O. A. S. S.</i>	OCT 8-79	
				DR11-W	CHK'D.	DATE	GENERAL PURPOSE DMA INTERFACE
					<i>J. H. K. J. R.</i>	OCT 79	
					PROJ. ENG.	DATE	SIZE B CODE DD NUMBER REV
					<i>P. M. A. P. A. L. E. J.</i>	10-16-79	
					PROD.	DATE	DR11-W
					<i>W. E. H. J. P. P.</i>	OCT 79	
				SHEET 1 OF 3	DIST.		

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DR11-W
NUMBER REV.
SIZE CODE B DD



TITLE GENERAL PURPOSE DMA INTERFACE	SHEET 2 OF 3	SIZE CODE B DD	NUMBER DR11-W	REV
--	--------------	----------------	---------------	-----

TYPE: E ELECTRICAL
M MECHANICAL
E/M ELECTRO/MECHANICAL

d i g i t a

111

GENERAL PURPOSE DMA INTERFACE

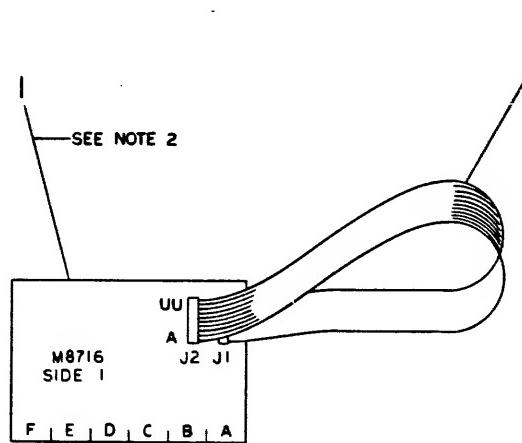
SHEET 3 OF 3

SIZE	CODE
B	DD

NUMBER

REV

DRB 108A

8	7	6	5	↓	4	↑	3	-	2	1																																											
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D 																																																					
D C B A																																																					
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D DRII-W-0 D DRII-W-0																																																					
NOTES: <ol style="list-style-type: none"> 1. THE M8716 MODULE IS PLUGGED INTO ANY SPC SLOT THAT IS WIRED FOR ALL UNIBUS SIGNALS. 2. THE NPR GRANT JUMPER (CAI TO CBI) MUST BE REMOVED BEFORE INSTALLING THE M8716 (ITEM 1). THIS JUMPER MUST BE REPLACED IF THE M8716 IS REMOVED FROM THE SYSTEM. 																																																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REF.</th> <th>DESCRIPTION</th> <th>QTY</th> <th>DRAWL. PART NO.</th> <th>ITEM NO.</th> </tr> </thead> <tbody> <tr> <td>I</td> <td>GENL PURPOSE DMA INTERFACE</td> <td>1</td> <td>D-AR-DRII-W-2</td> <td>7</td> </tr> <tr> <td>I</td> <td>OUTER BOX</td> <td>1</td> <td>9906088-07</td> <td>6</td> </tr> <tr> <td>I</td> <td>COURGATED SLEVE</td> <td>1</td> <td>9906089-07</td> <td>5</td> </tr> <tr> <td>I</td> <td>DRII-W SHIPPING LIST</td> <td>1</td> <td>A-PL-DRII-W</td> <td>4</td> </tr> <tr> <td>I</td> <td>MODULE BOX</td> <td>1</td> <td>9905816-00</td> <td>3</td> </tr> <tr> <td>I</td> <td>BC05L CABLE,JUMPER</td> <td>1</td> <td>D-UA-BC05L-IC</td> <td>2</td> </tr> <tr> <td>I</td> <td>GENL PURPOSE DMA INTERFACE</td> <td>1</td> <td>D-UA-M8716-0-0</td> <td>1</td> </tr> </tbody> </table>										REF.	DESCRIPTION	QTY	DRAWL. PART NO.	ITEM NO.	I	GENL PURPOSE DMA INTERFACE	1	D-AR-DRII-W-2	7	I	OUTER BOX	1	9906088-07	6	I	COURGATED SLEVE	1	9906089-07	5	I	DRII-W SHIPPING LIST	1	A-PL-DRII-W	4	I	MODULE BOX	1	9905816-00	3	I	BC05L CABLE,JUMPER	1	D-UA-BC05L-IC	2	I	GENL PURPOSE DMA INTERFACE	1	D-UA-M8716-0-0	1				
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DRB 126

digital

USED ON OPTION/MODEL
DR11-W

DRN. R. KOPPEN

CHK'D
G. Berger

ENG *Donald*

PROD-
1111111

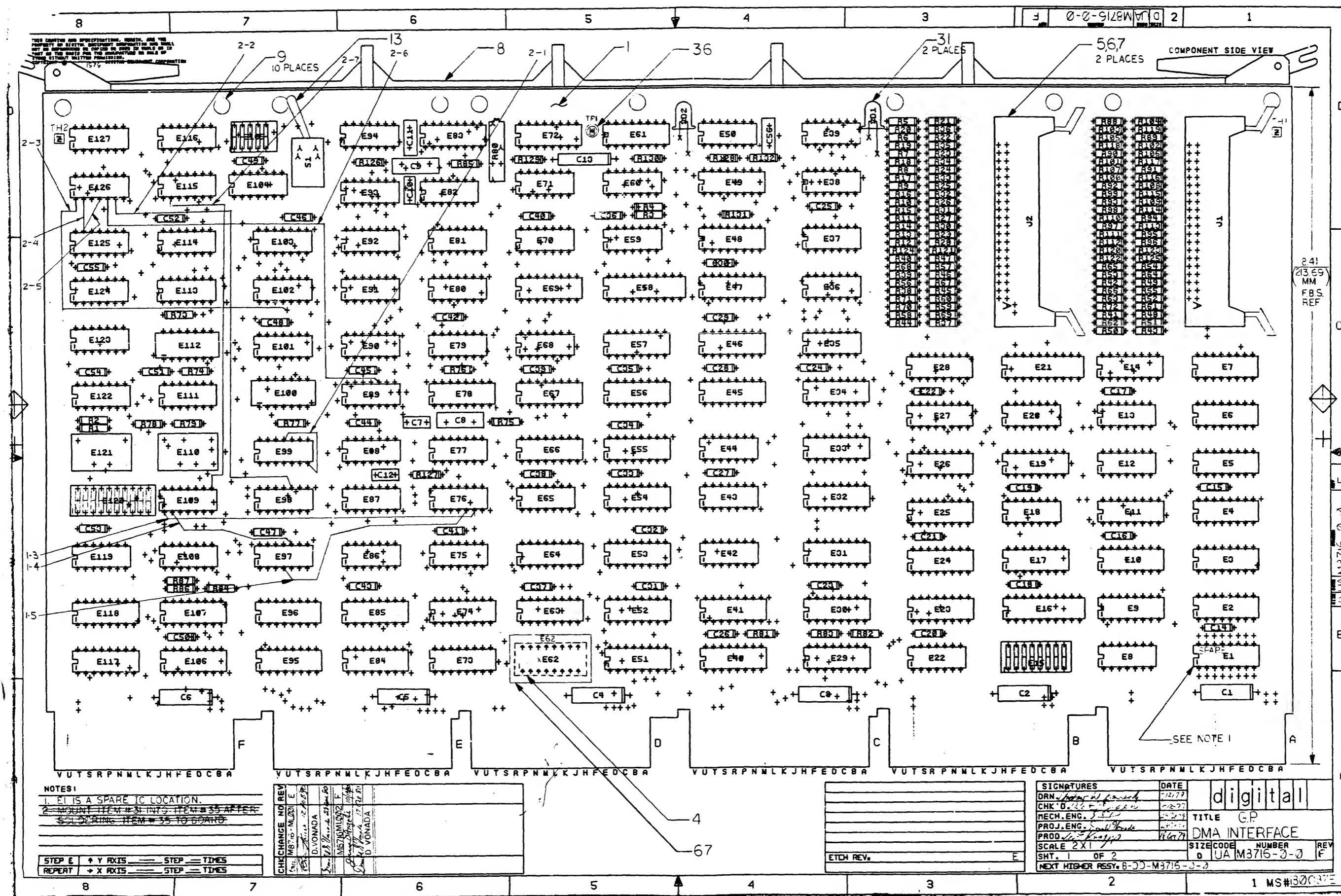
de mappes.

TITLE G.P.
DMA INTERFACE

SIZE CODE NUMBER
B DD M8716-Ø

SHEET OF

ML-1



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REWORK INSTRUCTIONS:

ETCH CUTS SIDE 2:
1-1 REFER TO D-EC-5013369-0-0
1-2 REFER TO D-EC-5013369-0-0
WIRE ADDS
1-3 FROM E76-6 TO E109-1.
1-4 FROM E109-2 TO E97-10
1-5 FROM E76-5 TO E97-4

WIRE ADDS

ETCH CUTS SIDE 1
2-1 REFER TO D-EC-5013369-0-0
2-2 REFER TO D-EC-5013369-0-0

ETCH CUTS SIDE 2
Z-3 REFER TO D-EC-5013369-0-0

REVISIONS										TITLE		SIZE CODE		NUMBER		REV.
CHK	CHANGE NO.	REV.								G. P. DMA INTERFACE		D U A		M8716-0-0		F
SCALE _____ / _____ SHEET 2 OF 2 DIST. _____																

8

7

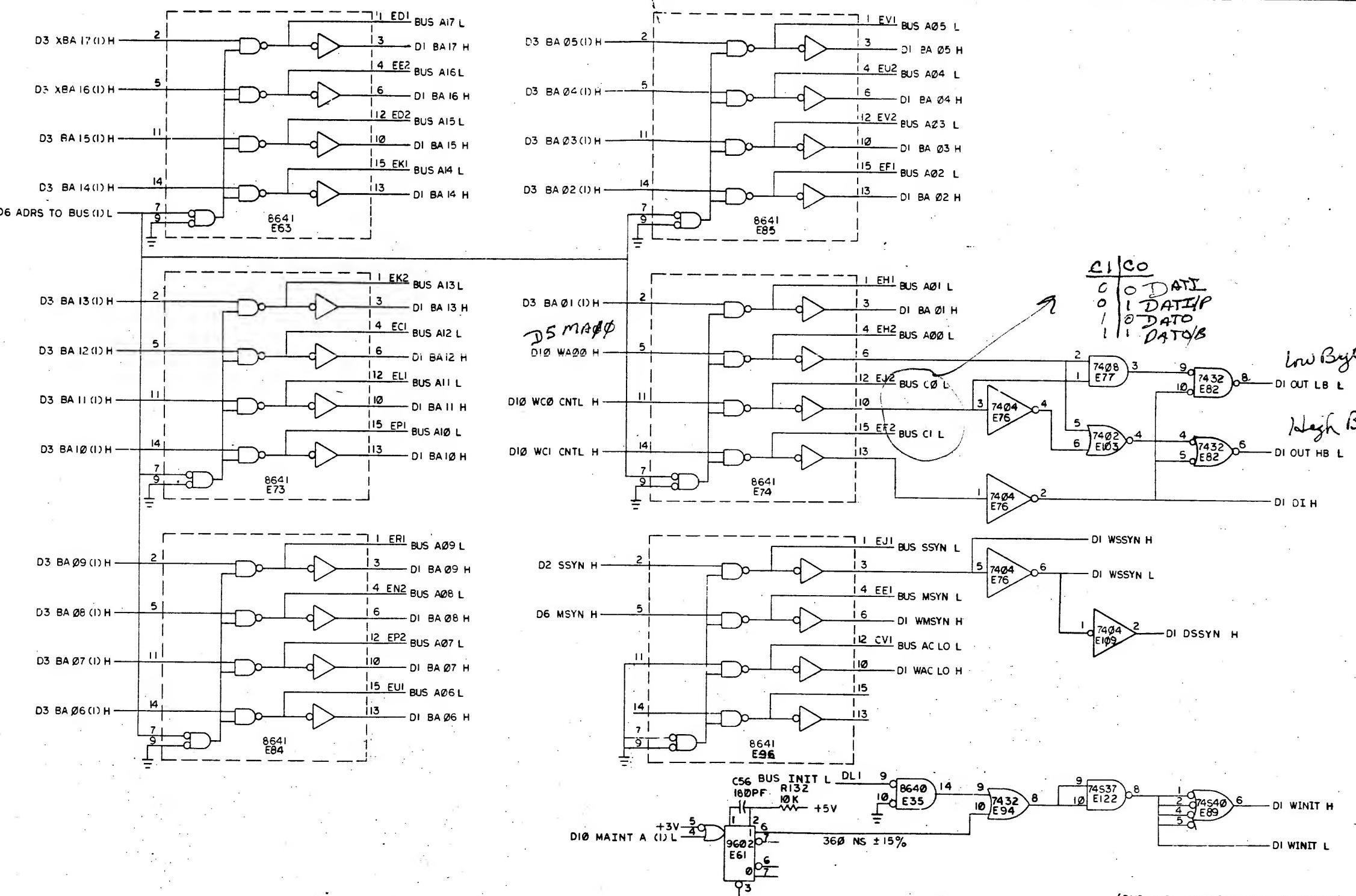
6

5

4

3

1



REVISIONS	
CHG:	CHANGE NO:
102	M8716-ML001
D. VONADA	Design: 10/1978
Donal	Donal 10/1978
AB716-ML002	Test: 10/1978
D. VONADA	Donal 10/1978
AB716-ML003	Final: 10/1978

8

7

6

5

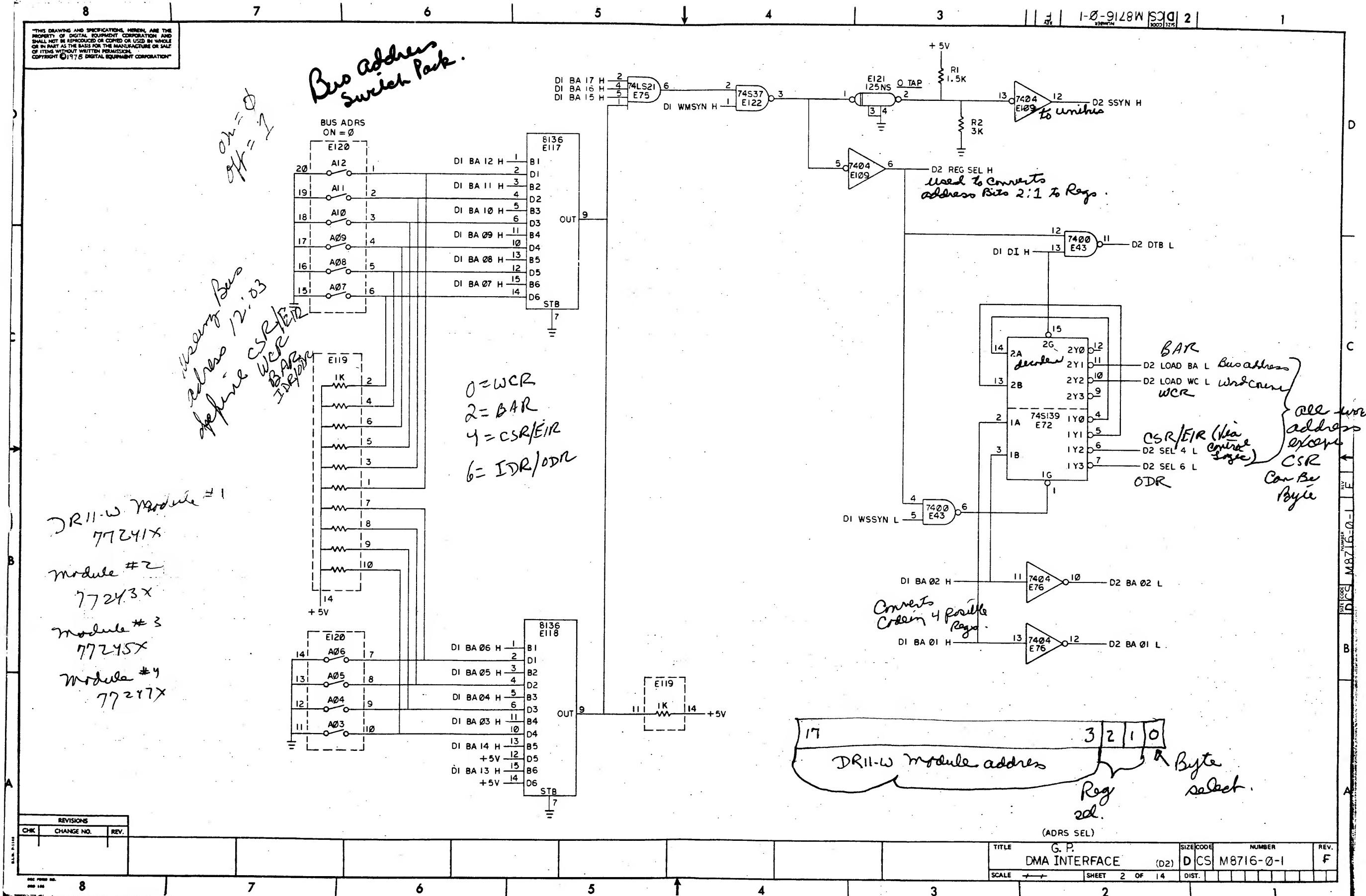
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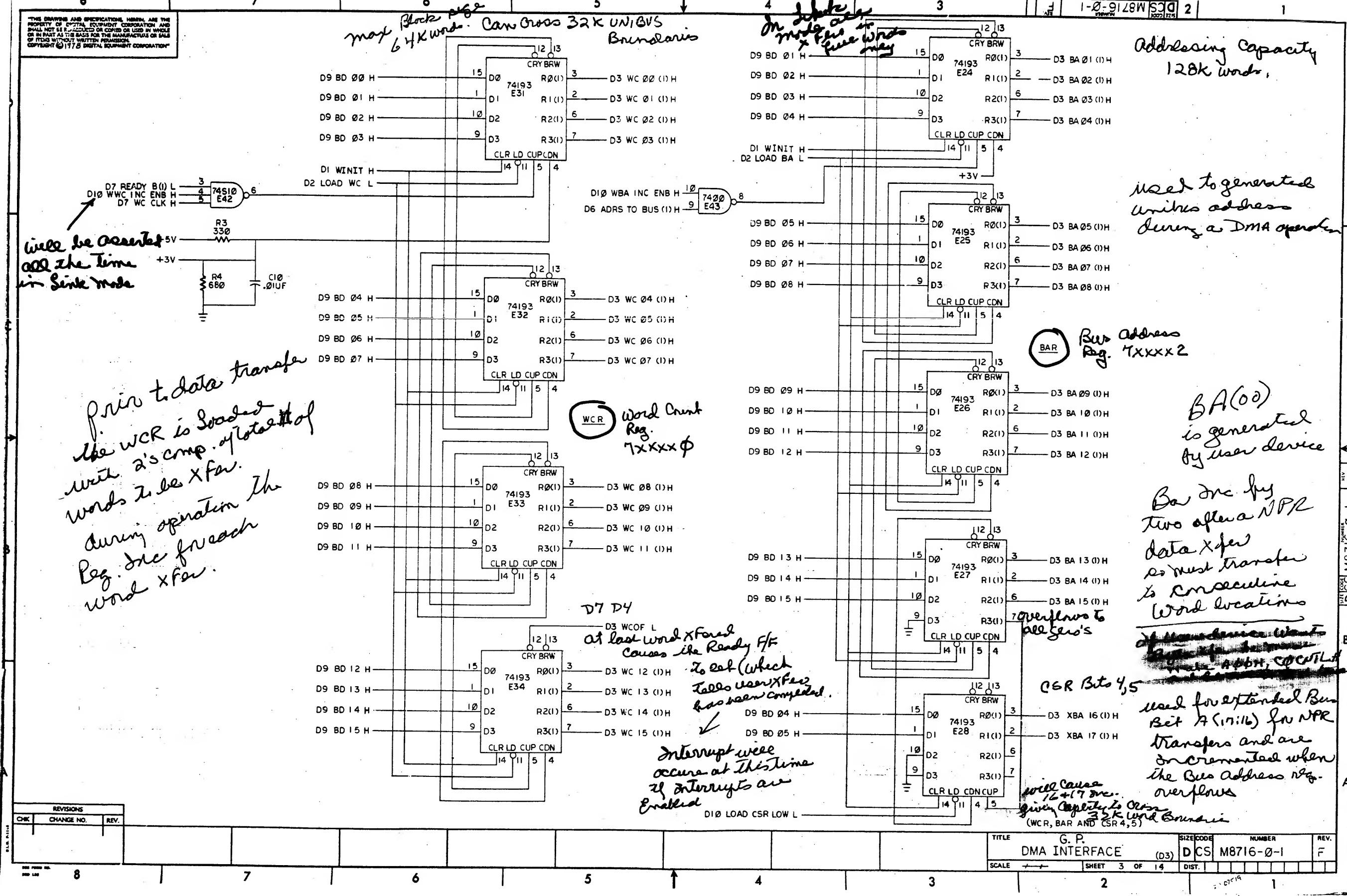
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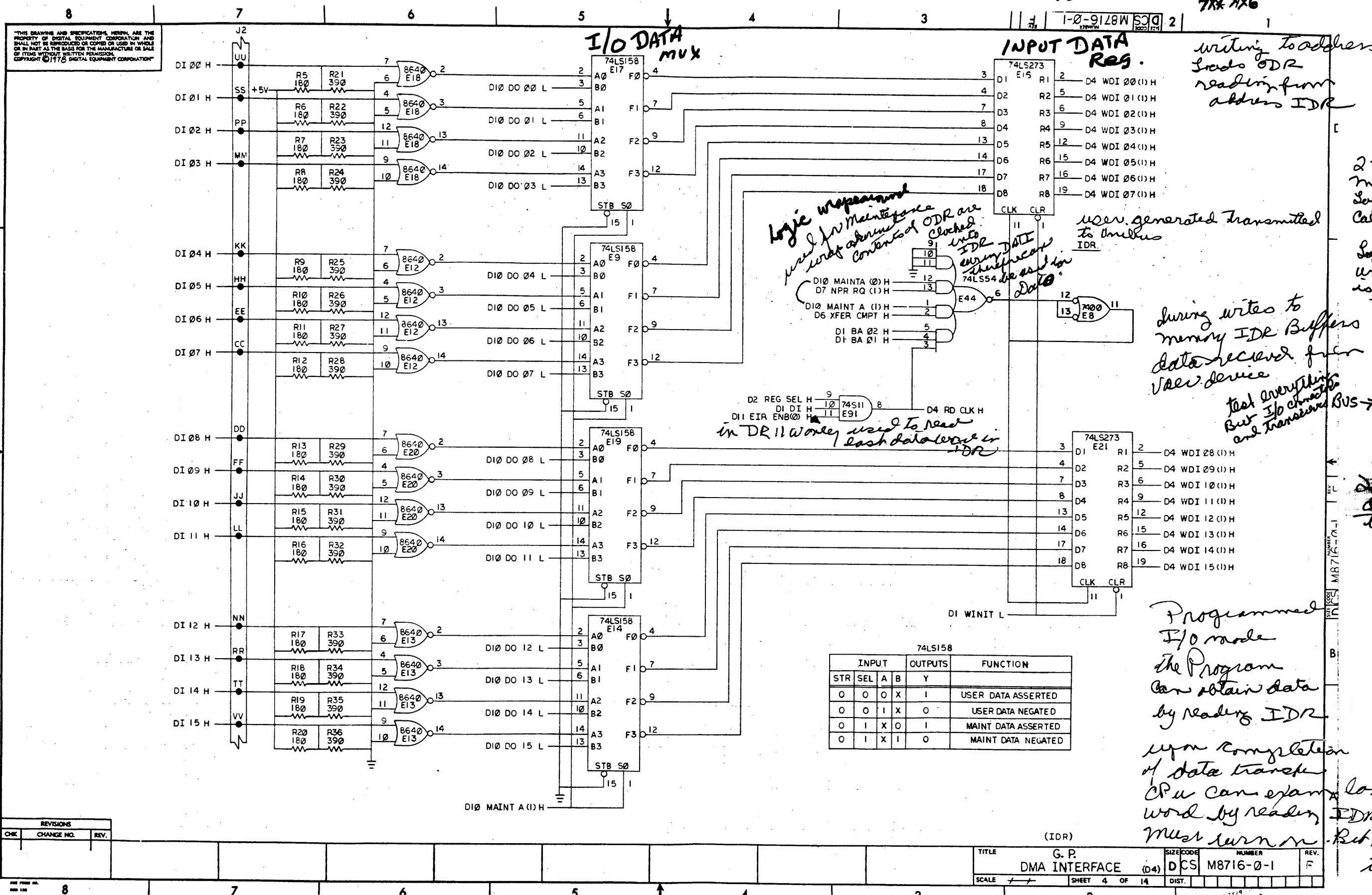
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DRN: R. Kippel	S-A-78	FIRST USED ON
CHKD: J. L. Parker	10/1978	DRII-W
ENG: G. P.		digital
PROJ. EMPL: G. P.	2900	A
PROD. CHG: G. P.	2900	
NEXT HIGHER ASY:		
B-DD-M8716-0		
SCALE: 1/	CODE: D CS	NUMBER: M8716-0-1
		REV: F
SHEET 1 OF 14		DIST.





I input / output data reg
some address 7xx Xx6



2 Maintenance modes
Logic wraparound
Cable wraparound.

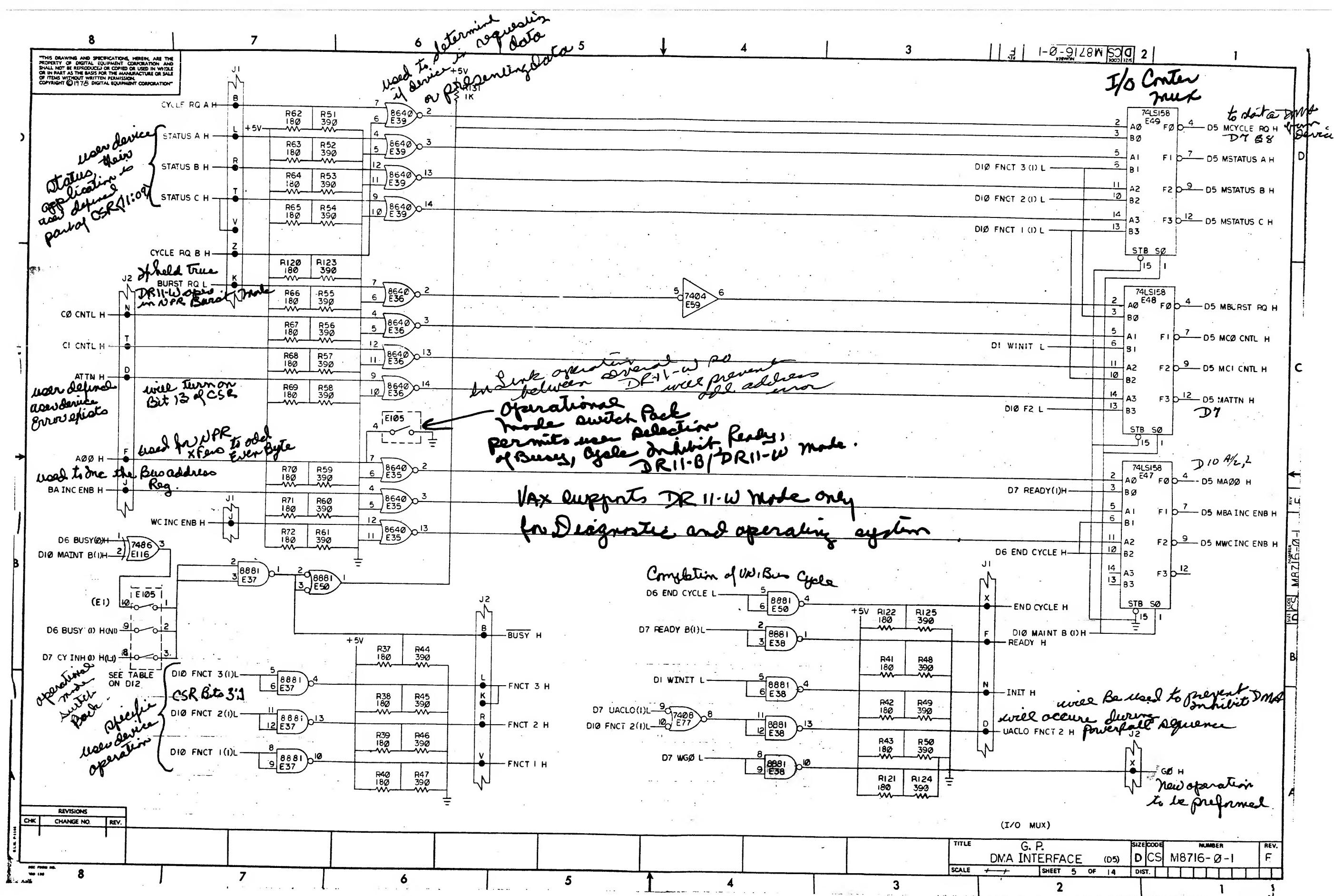
Logic wraparound
Unibus data is applied to DR 11-W
Then gated Back To Unibus for Comparison Checking

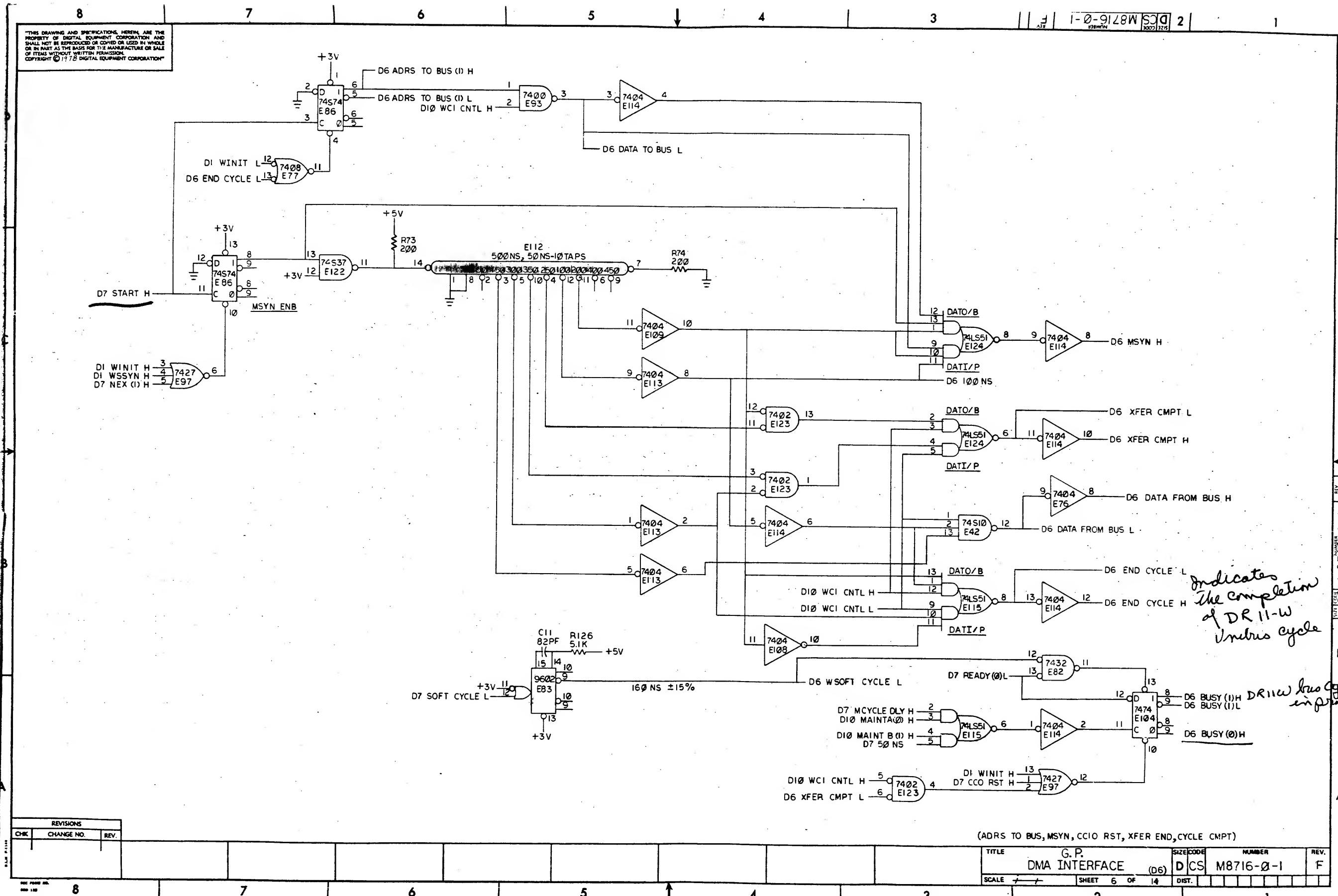
test everything
But I/O connected and transferred BUS → ODR → IDR → DR
DATA
DATA

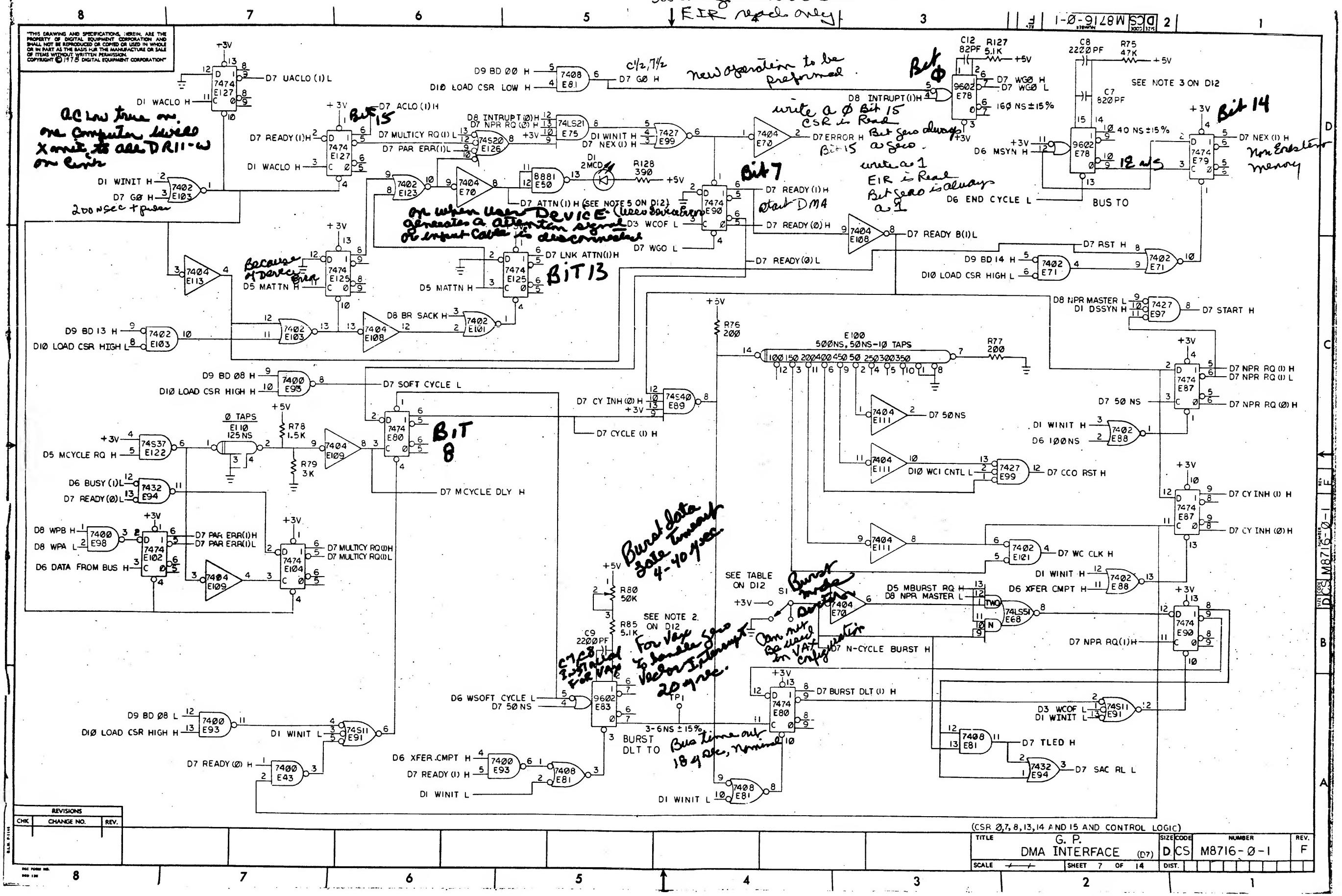
memory To
during this testing

Programmed I/O mode
The Program can obtain data by reading IDR

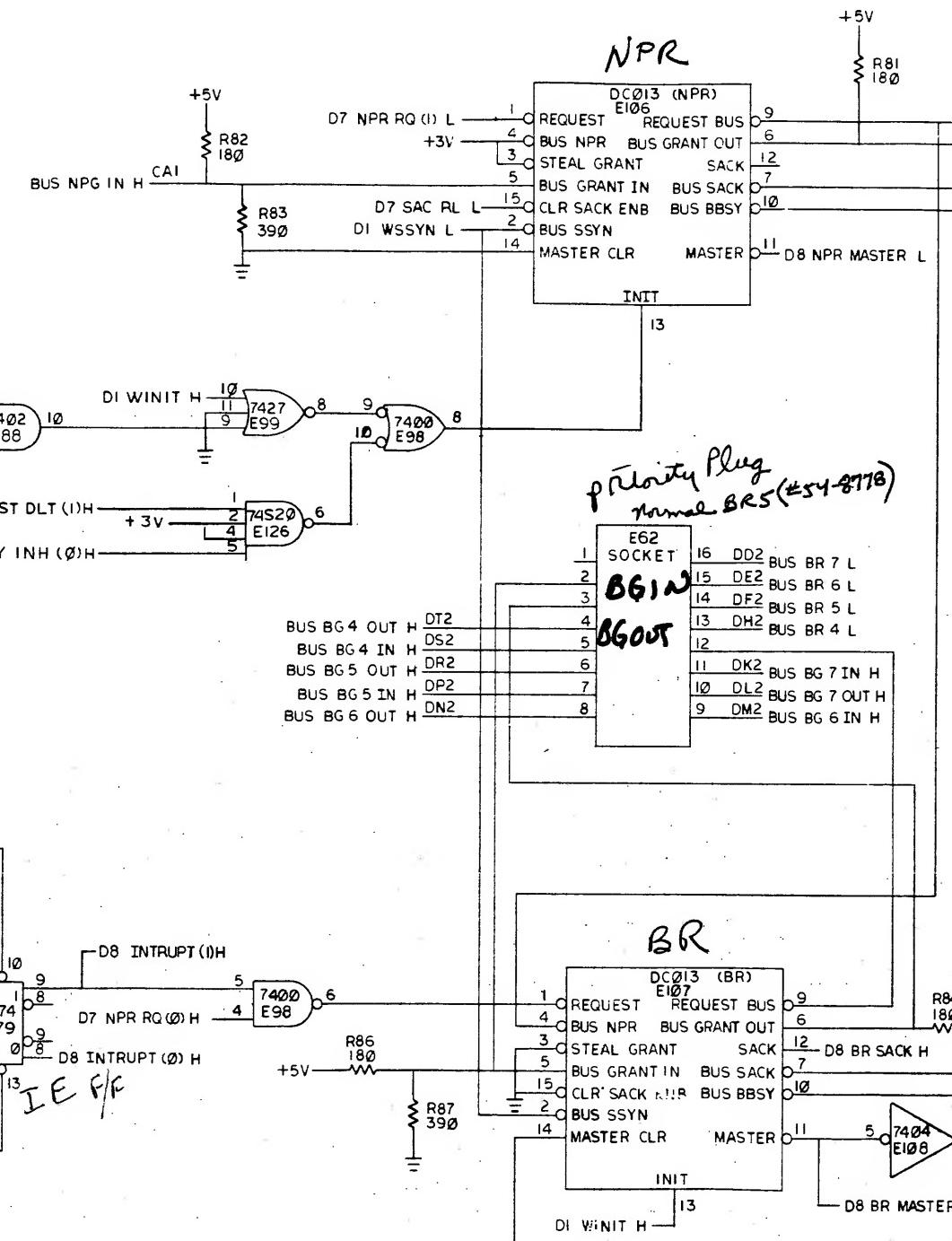
upon completion of data transfer
CPU can examine last IDR
Must return to bit 15 of CSR to see this







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Previous generation
of complete

Bit 6 on CSR
Causes interrupt
if set
versus attempt to
select ITTB

Bit 6 on CSR
 Causes a interrupt
 if Bit 2b
 WCR overflows about of Xfer
 know condition is detected
 ERP (Bit 15) NEX, ATTN, SCL
 multicyclic P8, Par even-
 during DMA
 user service
 user service
 set to PRHW

REVISIONS

DMA operation : Transfer 1 word per Unibus arbitration
can be changed to include standard or non standard burst modes.

FBI BUS NPR L
CBI BUS NPG OUT H

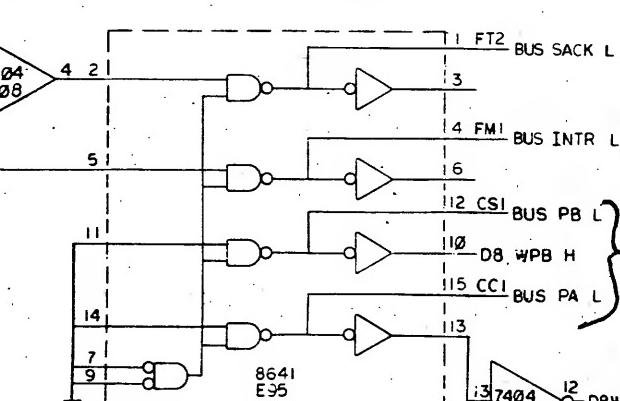
FDI BUS BBSY L

During Standard Burst mode, 2 words are transferred at completion of each Unibus arb.
Non standard unbuffered bursts of N words

C13
 15UF
 47K
 15 14 10 9 +5V
 96020-2 8 8881 10
 E61 10 10
 1 9 230 NS ±15%
 D7 TLED H 12
 +3V 11
 +5V
 D2 2MCD
 R150 390
 +5V
 SEE NOTE 4 ON D12
 get when ever

$\pm 15\%$ Set when ever
Burst mode toggle
Switch is set in N-Cycle
position and a NPR
is in progress.

Programmed I/O CPU Controller



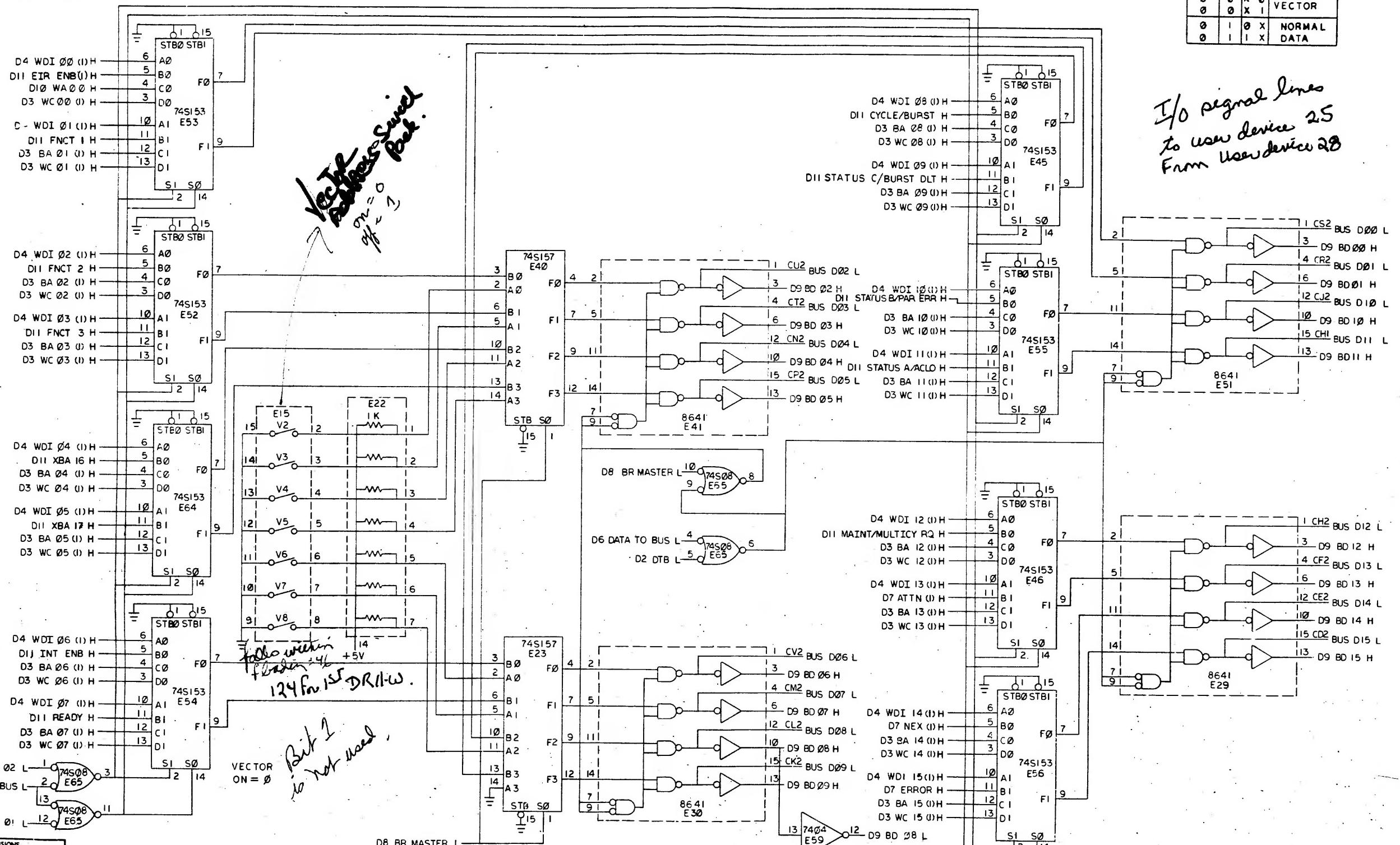
R11-W
detects memory
parity error
during DATA
and DATA/P
on DMA op.

REV.
F

Error detection gen.
an interruptable

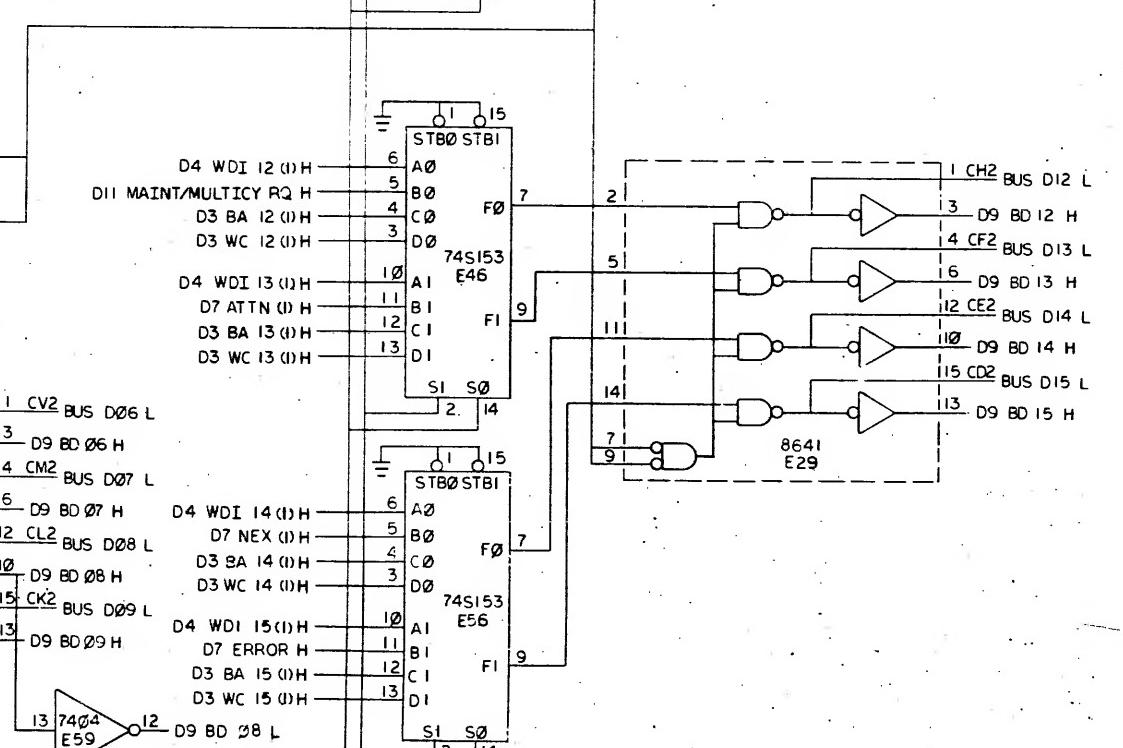
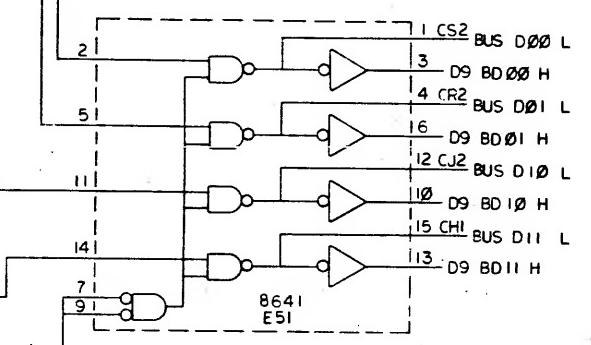
Error is cleared
at start of next
DMA operation.

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STB	S0	B	A	F	OUTPUT
0	0	X	0		
0	0	X	1		VECTOR
0	1	0	X		NORMAL
0	1	1	X		DATA

I/O signal lines
to user device 25
From User device 28



REVISIONS		
CHK	CHANGE NO.	REV

(BUS TO TRANSCEIVERS AND MUX)				REV.
TITLE	SIZE CODE	NUMBER	REV.	
G. P. DMA INTERFACE (D9)	D C S	M8716-0-1		F
SCALE	INCHES	0.050	0.050	

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Draft
02/20/78
JTP/JTA
Reg

8

6

5

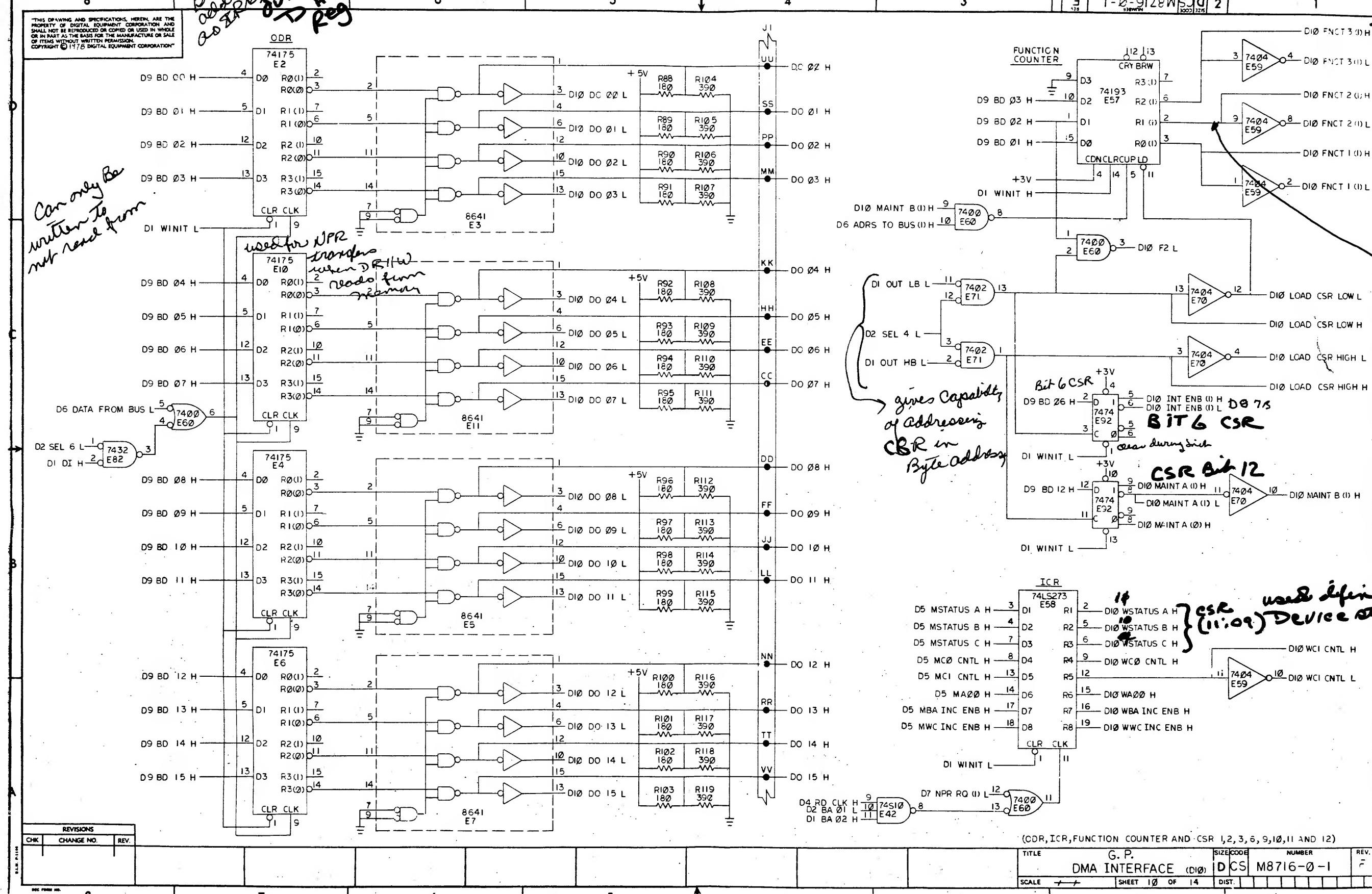
4

3

2

1

1-0-9178CS DCS M8716-0-1



CSR (3:1)

user defined
tell what
he want
to do theory
DR11-W

setting CSR Bit 2
in Xmitting DR11-W
Sets Both CSR Bit 10
and CSR Bit 13

in Receiving DR11-L
Bit 13 attr.
when set will
set Bit 15 EBBH
which will generate
a interrupt if

Bit 6 Interrupt
Enable Bit is
set.

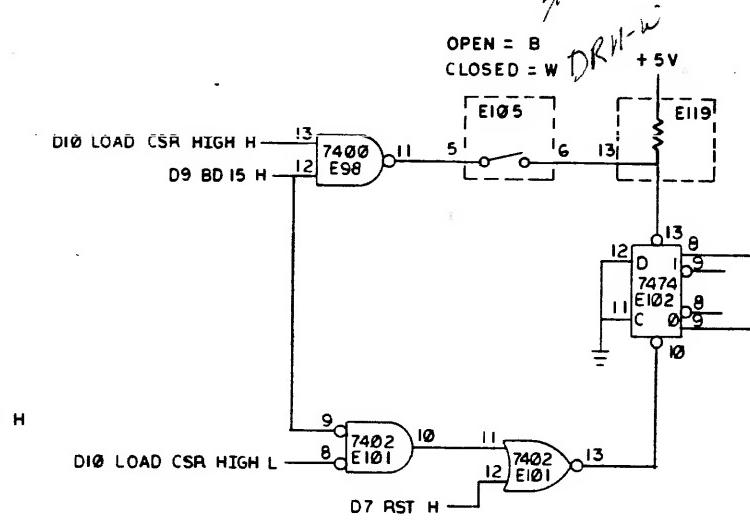
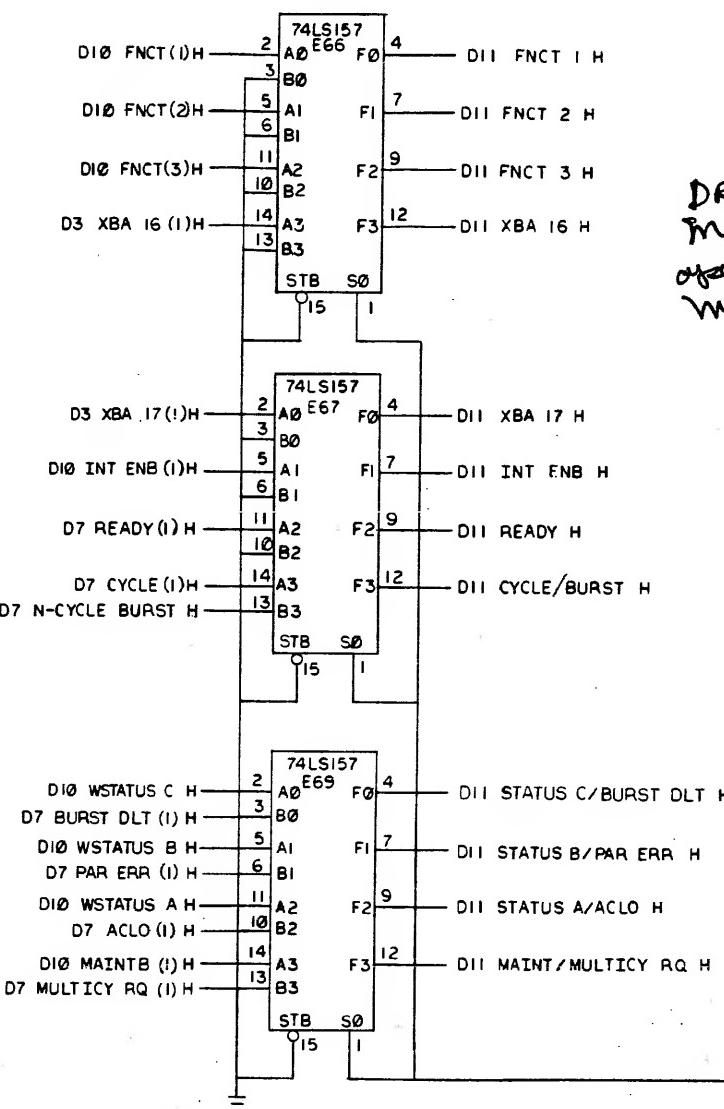
CSR used define
(11:09) Device Status Bits

(CDR, ICR, FUNCTION COUNTER AND CSR 1, 2, 3, 5, 9, 10, 11 AND 12)

TITLE G.P. DMA INTERFACE (D10) DCS M8716-0-1

SCALE SHEET 10 OF 14 DIST. 1

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DRII-W became BBS
Master via APRS
operates directly on
Memory

ined data I/O (an
cycle, 2 cycle
bus grant)
DR II-B mode
DR II-W mode & Vorb mode

only

Follow More Error Correction
monitoring

used in DRII-w only

DII EIR ENB (0)'H
Error and Information
Ref: (15:13) feed for immediate
access
same as CSR (15:13)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	G.P. DMA INTERFACE (D10)	SIZE CODE	NUMBER	REV.
SCALE	1/1	SHEET 11 OF 14	DIST.	E

8 | 7 | 6 | 5 | ↓ | 4 | ↑ | 3 | || E | 1 - 0 - 9128 M S D 2 | 1

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SPARES

NOTES:

1. ALL RESISTORS ARE 1/4 W, 5% UNLESS OTHERWISE SPECIFIED.
2. THE BURST DLT TIME OUT IS USED FOR NPR BURST MODE ONLY AND MAY BE ADJUSTED BETWEEN 3 AND 30 μS TO ACCOMMODATE INPUT DATA RATE. IT IS TYPICALLY ADJUSTED TO 10 μS TO RUN WITH MOST PDP-II FAMILY OF PROCESSORS.
3. THE BUS TIME OUT MAY BE CONFIGURED FOR UNIBUS-II, UBA OF VAX AND II/74. FOR UNIBUS-II TIME OUT C8 MUST BE CUT. FOR UBA OF VAX AND II/74, BOTH C7 AND C8 MUST BE INSTALLED.
4. THE LED IS LIT WHEN PULSED BY ONE-SHOT. THE ONE SHOT IS TRIGGERED WHEN BI IS IN N-CYCLE POSITION, BURST RQ IS ASSERTED AND AN NPR OPERATION BEGINS.
5. THE LED IS LIT WHEN USER ATTN SIGNAL IS STUCK ASSERTED OR USER CABLE IS NOT CONNECTED TO MODULE CONNECTOR.

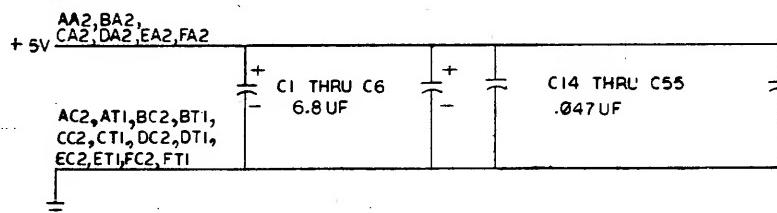
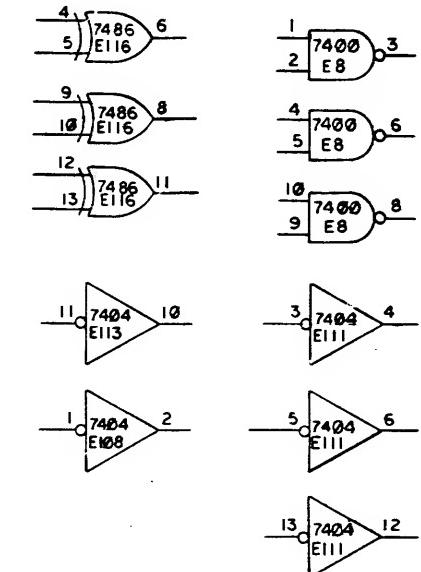


TABLE I POWER AND GND TABLE		
IC TYPE	GND	+5V
14 PIN IC'S	PIN 7	PIN 14
16 PIN IC'S	PIN 8	PIN 16
8640	PIN 1	PIN 8
74LS273	PIN 10	PIN 20

MODES OF OPERATION	SWITCH 4	A00 5	MODE		CY INH	BURST BI *
			B-W	E-I 1 2 3		
USER DEVICE		USER SELECT	ON	OFF	OFF	USER SELECT
MAINT, CABLE AND DRII-W TO DRII-W LINK	ON	USER SELECT	OFF	ON	OFF	USER SELECT
DRII-W TO DRVII-B LINK	ON	USER SELECT	OFF	OFF	ON	USER SELECT

* UP POSITION FOR N-CYCLE BURST
AND DOWN FOR TWO-CYCLE BURST.



REVISIONS		
CHK	CHANGE NO.	REV.

SCALE: 1/1

DEC FORM NO.
DOD 100

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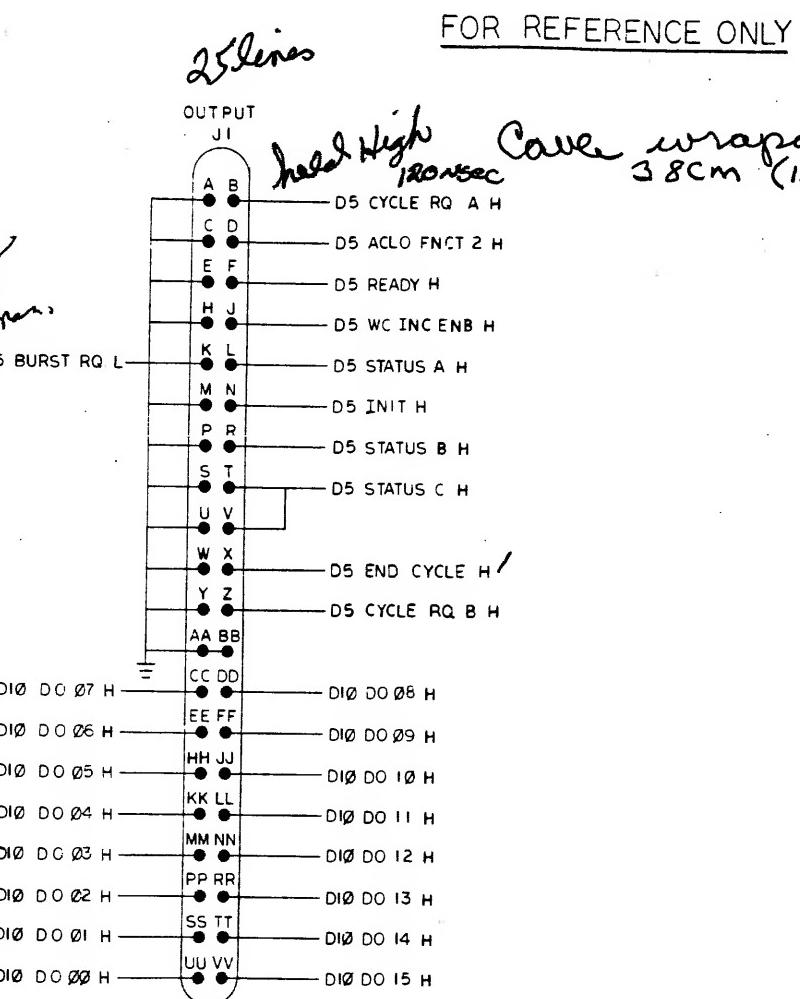
TITLE: G.P.
DMA INTERFACE (D12)
SIZE CODE: DCS M8716-0-1
SCALE: // SHEET 120F 14 REV. F
DIST.

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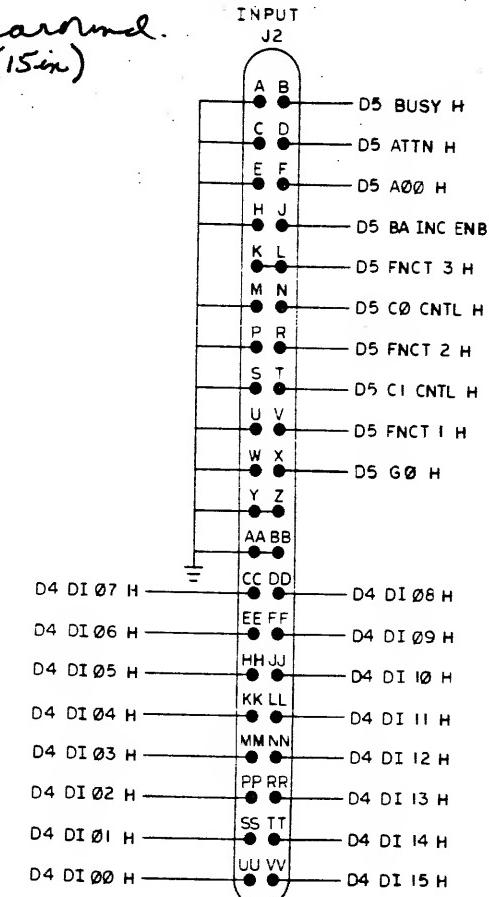
1-0-1 M8716-01 DCS 2

*Cable wrapped around
B COSL test cable
is installed between J1 output
J2 input so that data
can be looped back to
Module
This checks out Connectors
and Bus Transceivers*

*Page 3-1
test man.*



28 lines



*Page 3-3
tech manual*

*Start a DMA J1
END cycle H, G0 H, BusyH,
Ready H go to user device*

*user device response
with*

*D I (15.00) 1t - J2
also*

*C0 CNTL H
C1 CNTL H*

*Cycle Pg A (or B)
WC INC ENB H
BA INC ENB H
BVRST RQ L*

REVISIONS		
CHK	CHANGE NO.	REV.

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(I/O CONNECTOR PIN ASSIGNMENT)

TITLE G.P.
DMA INTERFACE (D13) DCS M8716-0-1
REV. F

SCALE 1/1 SHEET 13 OF 14 DIST.

DY Source	23	01	02	03	04	05	06	07	08	09	10
AD CIR H	C3	-	-	2	-	-	-	-	-	-	-
WDI 15(1) H	B1	-	-	1	-	-	-	-	-	-	-
WDI 14(2) H	B1	-	-	1	-	-	-	-	-	-	-
WDI 13(1) H	B1	-	-	1	-	-	-	-	-	-	-
WDI 12(1) H	B1	-	-	1	-	-	-	-	-	-	-
WDI 11(1) H	B1	-	-	1	-	-	-	-	-	-	-
WDI 10(1) H	B1	-	-	1	-	-	-	-	-	-	-
WDI 09(1) H	B1	-	-	1	-	-	-	-	-	-	-
WDI 08(1) H	B1	-	-	1	-	-	-	-	-	-	-
WDI 07(1) H	D2	-	-	1	-	-	-	-	-	-	-
WDI 06(1) H	D2	-	-	1	-	-	-	-	-	-	-
WDI 05(1) H	D2	-	-	1	-	-	-	-	-	-	-
WDI 04(1) H	D2	-	-	1	-	-	-	-	-	-	-
WDI 03(1) H	D2	-	-	1	-	-	-	-	-	-	-
WDI 02(1) H	D2	-	-	1	-	-	-	-	-	-	-
WDI 01(1) H	D2	-	-	1	-	-	-	-	-	-	-
WDI 00(1) H	D2	-	-	1	-	-	-	-	-	-	-

DG SOURCE	Σ_0	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
100 NS	C3	-	-	-	-	-	-	-	-	-	-
ADAS TO BUS N	D6	-	-1	-	-2	-	-	-1	-	-	-
ADAS TO BUS L	D6	5	-	-	-1	-	-	-	-	-	-
BUSY (0) H	A1	-	-	-	-1	-	-	-	-	-	-
BUSY (1) H	A1	-	-	-	-	-1	-	-	-	-	-
BUSY (1) L	A1	-	-	-	-	-	-1	-	-	-	-
DATA FROM BUS N	B1	-	-	-	-	-	-1	-	-	-	-
DATA FROM BUS L	B2	-	-	-	-	-	-2	-	-	-	-1
DATA TO BUS N	D5	-	-	-	-	-	-3	-	-	-3	-
End CYCLE H	B2	-	-	-	-	-	-2	-	-	-	-
END CYCLE L	B2	-	-	-	-	-	-2	-1	-	-1	-
MSPW H	C3	1	-	-	-	-	-1	2	-	-	-
W SOFTCIE L	A1	-	-	-	-	-	-2	2	-	-	-
XFER CMPT H	C2	-	-	-	-1	-	1	2	-	-	-
XFER CMPT L	C2	-	-	-	-	-	-3	-	-	-	-

BD SOURCE	1°	0°	20°	20°Y	0°Y	0°Z	0°X	0°XZ
BD 15 H	B1	-2	-	-	-	1	1	
BD 14 H	B1	-3	-	-	1	1	1	
BD 13 H	B1	-2	-	-	1	1	1	
BD 12 H	B1	-2	-	-	-	1	2	
BD 11 H	C1	-2	-	-	-	1	1	
BD 10 H	C1	-2	-	-	-	1	1	
BD 09 H	A4	-2	-	-	-	1	1	
BD 08 H	A1	-2	-	-	1	2	1	
BD 08 L	A4	-	-	-	-	1	1	
BD 07 H	A4	-2	-	-	-	1	1	
BD 06 H	A4	-2	-	-	-	1	2	
BD 05 H	C4	-3	-	-	-	1	1	
BD 04 H	C4	-3	-	-	-	1	1	
BD 03 H	C4	-2	-	-	-	1	2	
BD 02 H	C4	-2	-	-	-	1	2	
BD 01 H	C1	-2	-	-	-	1	2	
BD 00 H	C1	-2	-	-	1	1	1	

REVERSE		REV.
CHEK	CHARGE NO.	

DOCUMENT NUMBER	
ZE CODE	NUMBER
(CS	M8716-0-1
CALE	SHEET 14 OF 14

PARTS LIST

SHEET A1 OF A3

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
				00	
1 1	D-MD-5013369-0-0	5013369-00	DR11W		
2 2		1012784-00	.047 MFD 50V +80-20% CER	1	
3 3		1005306-00	6.8MFD 35V 10% S.TANT	42	C14-C55
4 4		1209838-00	SOCKET 16PIN	6	C1-C6
5 5		1209941-02	HEADER 100 40POS RT ANGLE	1	XE62
6 6		1209941-03	HEADER RT ANGLE LEFT L	2	J1,J2
7 7		1209941-04	HEADER RT ANGLE,RIGHT	2	
8 8		1210711-02	/REPLACED BY 12-16988-02	1	
9 9		9009000-00	EYELET, ROLLED FLANGE, .121 OD X	10	
10 10		1211164-01	SW,DIP 1P 1A 5POS	1	E105
11 11		1211164-04	SW,DIP 1P 1A 8POS	1	E15
12 12		1211164-06	SW,DIP 1P 1A 10POS	1	E120
13 13		1210209-00	SW,TOG,SPDT,.01A@6V,ON/ON,SUBMIN	1	S1
14 14		1301322-00	180.0 .25 W 5.0 % CC	57	R5-R20,R37-R43,R62-R72, R120-R122,R88-R103,R81,R82,R84, R86
15 15		1300309-00	390.0 .25 W 5.0 % CC	57	CONT CONT
16 16		1300005-01	R NETWORK 13-1K 5.0 % 14PIN	2	CONT
17 17		1611197-00	DELAY=50-500NS,10TAPS	2	E119,E22
18 18		1611327-00	DELAY= 125NS,0TAPS	2	E100,E112
19 19		1300391-00	1.50 K .25 W 5.0 % CC	2	E110,E121
20 20		1300432-00	3.0 K .25 W 5.0 % CC	2	R1,R78
21 21		1300295-00	330.0 .25 W 5.0 % CC	1	R2,R79
22 22		1301424-00	680.0 .25 W 5.0 % CC	1	R3
23 23		1311522-00	200.0 .25 W 5.0 % CC	4	R4
24 24		1312930-00	5.10 K .25 W 5.0 % CC	3	R73,R74,R76,R77
25 25		1302177-00	47.0 K .25 W 5.0 % CC	2	R85,R126,R127
26 26		1309143-13	50.0 K .75 W10.0 % POT	1	R75,R129
27 27		1000027-00	820.0 MMF 100V 5Z200PPM MICA	1	R80 C7

REVISION HISTORY		BASIC PART NO:	M8716	DRN:	BOB PAULEY	DATE:	03-JAN-79	D	I	G	I	T	A	L
ENG!	ECO NUMBER	REV	SECTION A OF A											
<hr/>														
---	INITIAL	ID	SECTION.VARIATION INDEX	CHK'D:	KENT GLEESEN	DATE:	24-SEP-79							
DV	M8716-ML001	IE	CAJ 00											
CN	M8716-ML002	IF	CBJ											
		ICJ		DES.ENG:	C. NAVEDONSKY	DATE:	18-OCT-79							
		EDJ												
		EEJ												
		CFJ		RESP.ENG.:	C. NAVEDONSKY	DATE:	18-OCT-79							
		EHJ												
		EJJ												
		CKJ		MFG.ENG.:	WALTER KNAFF	DATE:	18-OCT-79	K	PL	M8716-0-DBP				F
		CLJ												
		CMJ		ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:					FILE NAME:		EDIT #	
		CNJ		D-UA-M8716-0-0							Z0233F.PLS		11	

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LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION				QTY PER VARIATION	REFERENCE DESIGNATOR
							00	
28	28	SEE NOTE	1000055-00	2200.0 MMF	250V 20%	Y5S DISC	2	C8,C9
29	29		1004812-00	15 MFD	20V 10%	S.TANT	1	C13
30	30		1000015-00	82.0 MMF	100V 5%200PPM	MICA	2	C11,C12
31	31		1110864-00	LED 2MC10@10MA			2	D1,D2
32	32		1910651-00	DEC 74175	FF-D QUAD		4	E2,E4,E6,E10
33	33		1912847-00	LS157	MUX 1 OF 2(QUAD)		3	E66,E67,E69
34	34		1910951-00	9602	ONE SHOT-DUAL		3	E78,E61,E83
35	36		9008085-00	TERM PCB	1POS SOLDER TURRET		1	TP1
36	37		1910547-00	74S153	MUX 1 OF 4 (DUAL)		8	E45,E46,E52,E64,E53,E54,E55,E56
37	38		1914438-00	DC 013	UNIBUS INTERRUPT-BIF		2	E106,E107
38	39		1905547-00	7474	FF-D DUAL,EDGE TRIGG		9	E127,E80,E90,E104,E87,E102,E92, E79,E125
39	40		1912820-00	LS51	A-O-I GATE 2-WIDE 2I		3	E115,E124,E68
40	41		1910018-00	DEC 74193	COUNTER,SYNCHR. UP/D		10	E24,E25,E26,E27,E31,E32,E33,E34, E28,E57
41	42		1912848-00	LS158	MUX 1 OF 2 (QUAD)		7	E9,E14,E17,E19,E47,E48,E49
42	43		1911676-00	74S139	DECODER-DUAL TWO-INP		1	E72
43	44		1912821-00	LS54	A-O-I GATE,3-2-2-3IN		1	E44
44	45		1912863-00	LS273	FF-D OCTAL W/CLEAR		3	E16,E58,E21
45	46		1910011-00	DEC 7486	X-OR GATE-QUAD 2INPU		1	E116
46	47		1910548-00	74S157	MUX 1 OF 2 (QUAD)		2	E40,E23
47	48		1912395-00	DM 8136	COMPARATOR-6BIT UNIF		2	E117,E118
48	49		1912811-00	LS21	AND GATE-DUAL 4IN,PO		1	E75
49	50		1910541-00	74S40	NAND GATE-DUAL 4IN,B		1	E89
50	51		1912746-00	DEC 74S37	NAND GATE-QUAD 2IN		1	E122
51	52		1910537-00	74S11	AND GATE-TRIPLE 3INP		1	E91
52	53		1910536-00	74S10	NAND GATE-TRIPLE 3IN		1	E42
53	54		1912389-00	74S08	AND GATE-QUAD 2IN,PO		1	E65
54	55		1910155-00	DEC 7408	AND GATE,POS.QUAD 2I		2	E81,E77
55	56		1909686-00	7404	INVERTER GATE-HEX 1I		8	E59,E76,E70,E111,E108,E113,E109, E114
56	57		1905575-00	7400	NAND GATE-QUAD 2IN		5	E60,E43,E93,E98,E8
57	58		1910878-00	7427	NOR GATE-TRIPLE 3IN		2	E97,E99
58	59		1909004-00	DEC 7402	NOR GATE-QUAD 2IN		5	E88,E123,E101,E103,E71
59	60		1911469-00	DEC 8640	RECEIVER,BUS,QUAD,U		7	E12,E18,E13,E20,E35,E36,E39
60	61		1911579-00	8641	TRANSCEIVER,BUS,QUA		15	E3,E5,E7,E11,E30,E29,E41,E51, E96,E63,E95,E73,E84,E85,E74
61	62		1911521-00	7432	OR GATE-QUAD 2IN, PO		2	E94,E82
62	63		1909705-00	DEC 8881	NAND GATE-QUAD 2IN O		3	E37,E38,E50
63	64		1910539-00	74S20	NAND GATE-DUAL 4INPU		1	E126
64	65		1001610-00	.01 MFD	50V +80-20% 25U CER		1	C10
65	66		1300365-00	1.0 K	.25 W 5.0 % CC		1	R131
66	67		5408778-00	PLUG PRIORITY			1	E62
67	68		1300479-00	10.0 K	.25 W 5.0 % CC		1	R132
68	69		1000020-00	180.0 MMF	100V 5%200PPM	MICA	1	C56
69	70		1910544-00	74S74	FF-D DUAL,EDGE TRIGG		1	E86
70	71		9105740-55	WIRE(WRAP)30AWG		UL1423	A/R	

TITLE								SIZE		CODE		DOCUMENT NUMBER		REV	
D	I	G	I	T	A	L	DR11-W	SECTION A OF A		K	PL	M8716-0-DBP		F	
!	!	!	!	!	!	!	!	!		!	!	!	!	!	

AUTOMATED BY PRTLST.3L(37)

P A R T S L I S T

SHEET A3 OF A3

LINE ITEM DOCUMENT NUMBER

PART NUMBER

DESCRIPTION

QTY PER VARIATION
00

REFERENCE DESIGNATOR

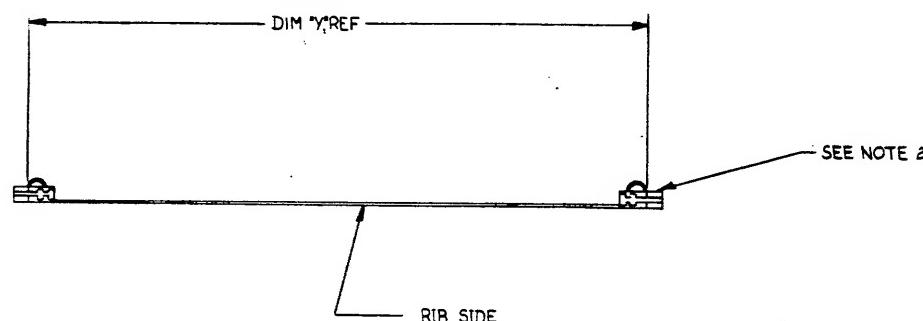
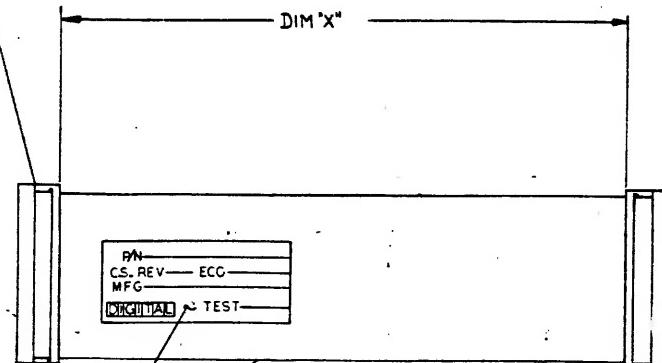
71 NOTE: C8 IS NOT FOR VOLUME PRODUCTION IT IS USED FOR TIME OUT ON 11/780

DIGITAL DR11-W SECTION A OF A K PL MB716-0-DBP F

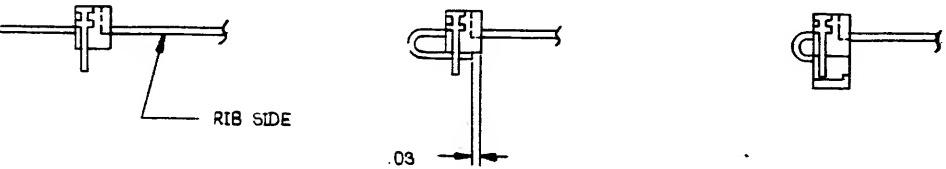
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WIRE TABLE

FROM	TO
P1-A	P2-VV
P1-B	P2-WJ
P1-C	P2-TT
P1-D	P2-SS
P1-E	P2-RR
P1-F	P2-PP
P1-H	P2-NN
P1-J	P2-MM
P1-K	P2-LL
P1-L	P2-KK
P1-M	P2-JJ
P1-N	P2-HH
P1-P	P2-FF
P1-R	P2-EE
P1-S	P2-DD
P1-T	P2-CC
P1-U	P2-BB
P1-V	P2-AA
P1-W	P2-Z
P1-X	P2-Y
P1-Y	P2-X
P1-Z	P2-W
P1-AA	P2-V
P1-BB	P2-U
P1-CC	P2-T
P1-DD	P2-S
P1-EE	P2-R
P1-FF	P2-P
P1-GH	P2-N
P1-JJ	P2-M
P1-KK	P2-L
P1-LL	P2-K
P1-MM	P2-J
P1-NN	P2-H
P1-PP	P2-F
P1-RR	P2-E
P1-SS	P2-D
P1-TT	P2-C
P1-JU	P2-B
P1-VV	P2-A



SEE NOTE 2



STEP #1

STEP #2

STEP #3

A

REV	CHANGE NO	REV	CHNG NO	REV
1	BC05L-00001	A	1	BC05L-00001
2	REVISED & REDRAWN	C	2	REVISED & REDRAWN
3	DWG NO WAS DUA-BC05L-00001	F	3	DWG NO WAS DUA-BC05L-00001
4	E. Allen 2-2-73	G	4	E. Allen 2-2-73
5	J. HESS 10-22-73	H	5	J. HESS 10-22-73
6	B. KALAGHER 5-16-76	I	6	B. KALAGHER 5-16-76
7	J. HESS 5-16-76	J	7	J. HESS 5-16-76
8	M. LEWANDOWSKI 1-6-76	K	8	M. LEWANDOWSKI 1-6-76
9	Q. MCMILLAN 1/6/76	L	9	Q. MCMILLAN 1/6/76
10	BC05L-00004	M	10	BC05L-00004
11	G. BURKE 4-7-75	N	11	G. BURKE 4-7-75
12	R. SIMPSON 1/6/76	O	12	R. SIMPSON 1/6/76
13	J. HESS 1/6/76	P	13	J. HESS 1/6/76
14	BC05L-00005	Q	14	BC05L-00005
15	J. HESS 5-16-76	R	15	J. HESS 5-16-76
16	J. HESS 5-16-76	S	16	J. HESS 5-16-76
17	J. HESS 5-16-76	T	17	J. HESS 5-16-76
18	J. HESS 5-16-76	U	18	J. HESS 5-16-76
19	J. HESS 5-16-76	V	19	J. HESS 5-16-76
20	J. HESS 5-16-76	W	20	J. HESS 5-16-76
21	J. HESS 5-16-76	X	21	J. HESS 5-16-76
22	J. HESS 5-16-76	Y	22	J. HESS 5-16-76
23	J. HESS 5-16-76	Z	23	J. HESS 5-16-76

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A

NUMBER	LEGEND	
	DIM 'X' VARIATION	DIM 'Y' (PRECUT) REF
BC05L-0C	.3IN ± .05IN	4.2 IN
BC05L-1C	15 IN ± .05IN	16.2 IN
BC05L-1J	20IN ± 1.0IN	21.3IN
BC05L-2	2FT ± .5IN	2.4 FT
BC05L-3	3FT ± .5IN	3FT, L2IN
BC05L-4	4FT ± .5IN	4FT, 1.2IN
BC05L-5	5FT ± .5IN	5FT, 1.2IN
BC05L-6	6FT ± .5IN	6FT, 1.2IN
BC05L-7	7FT ± 1.0IN	7FT, 1.2IN
BC05L-8	8FT ± 1.0IN	8FT, 1.2IN
BC05L-9	9FT ± 1.0IN	9FT, 1.2IN
BC05L-10	10FT ± 2.0IN	10.5 FT
BC05L-11	11FT ± 2.0IN	11FT, L2IN
BC05L-12	12FT ± 2.0IN	12FT, 1.2IN
BC05L-13	13FT ± 2.0IN	13FT, 1.2IN
BC05L-14	14FT ± 2.0IN	14FT, 1.2IN
BC05L-15	15FT ± .5IN	15FT, 1.2IN
BC05L-16	16FT ± 1.0IN	16FT, 1.2IN
BC05L-0E	5IN ± .5IN	6.2 IN

NOTES

ASSY OF ITEM #1 (CONNECTOR) TO ITEM #2 (CABLE)

IS AS FOLLOWS:

A CABLE TO BE CUT SQUARE AT BOTH ENDS
HALF OF CONNECTOR. NOTE POSITION OF
CABLE RELIEF SHOW AS DOTTED LINE.

RIBS ON CABLE MUST BE LOCATED DOWN
STEP 1: BEND CABLE DOWN AND UNDER AND
SECURE AGAINST ADHESIVE. NOTE DIMEN-

SION SHOWN

STEP 3: POSITION LOWER HALF OF
CONNECTOR ON LOCKING PINS AND PRESS

TWO HALVES TOGETHER. PULL CABLE
THRU SLOT, THEN BEND CABLE TO

POSITION CONNECTOR AS SHOWN IN
FINAL ASSY.

2 PHYSICAL APPEARANCE OF CONNECTOR MAY BE
DIFFERENT, DEPENDING ON VENDER PART USED

FOR DETAILED DESCRIPTION, REFER TO SPEC.

*A-PS-1211206-0-0, LATEST REVISION.

ITEM	DESCRIPTION	PART NO.	ITEM NO.
TU60			
1	LABEL, IDENTIFICATION	9009255	4
2	LABEL THIS IS TO BE UP	36H567	3
2	CONN. 40 PIN	12M206	2
AIR	CABLE, FLAT, 40 COND.	9107747-01	1
PARTS LIST			
DRNC	DATE	11-16-72	
CHKD	DATE	11-21-72	
ENG	DATE	11-21-72	
PROJ ENG	DATE	11-21-72	
PROD	DATE	11-21-72	
EQUIPMENT CORPORATION			
digital AYWARD MASSACHUSETTS			
TITLE			
CABLE, JUMPER			
D-UA-TU60-0-0	SIZE CODE		
D-UA	NUMBER		
BC05L-0-0	REV.		
1	1 OF 1	DIST	

1

D

C

B

A

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6

5

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3

2

1

A

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS
PARTS LIST

MADE BY A. COLON
DATE 4 OCT 74

DATE *11-11-98*
ENG *H. Wayne Lang*
DATE *10-10-79*

CHECKED 3. B. Kives Jr

DATE 8 Oct 79

PROD *W. Elsnapp*
PAGE 3427 1879

DATE 14 OCT 1991

SECTION

1

ISSUED SECT

1

TITLE

DRILL-W SHIPPING LIST

ASSY NO.

D-UA-DR11-W-0

	SIZE	C F
	A	

NUMBER

REV	ECO NO.
A	DR11-W ML001